

Cold Weather Technology Development for Low Altitude Ultra-Long Endurance Applications, Phase II

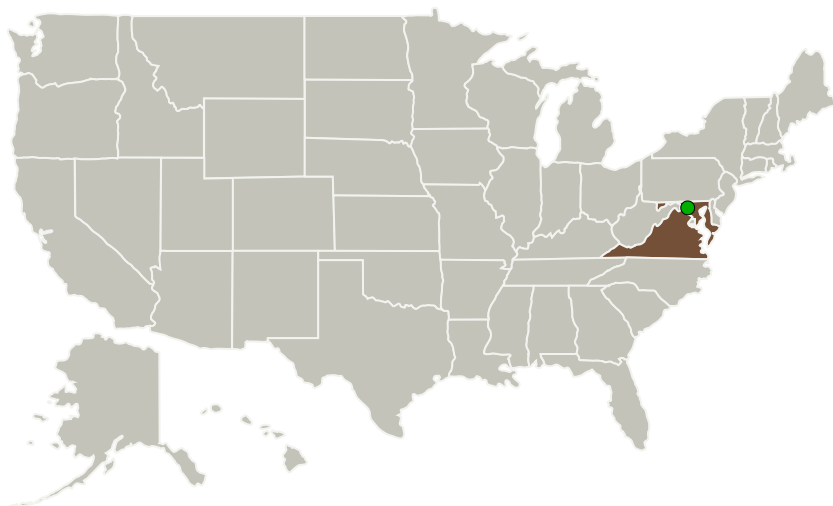
Completed Technology Project (2011 - 2014)




Project Introduction

Currently, wide area coverage with manned aircraft, or existing unmanned air systems, requires expensive logistical operations and many flight sorties, which are made especially difficult if operating from remote airfields in inhospitable climates. There is currently a need for a low-altitude long endurance unmanned aircraft that can provide the expansive coverage necessary for cryospheric investigations. Extreme cold places unique requirements on aircraft if they are to operate consistently and reliably in these environments. Building on the successful results of the Phase 1 SBIR work, this Phase 2 SBIR will test low temperature long-endurance unmanned aircraft engine and systems technologies in a relevant environment through flight test of a prototype unmanned air system and associated work.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Vanilla Aircraft, LLC	Lead Organization	Industry	Falls Church, Virginia
 Goddard Space Flight Center(GSFC)	Supporting Organization	NASA Center	Greenbelt, Maryland



Cold Weather Technology Development for Low Altitude Ultra-Long Endurance Applications, Phase II

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

Cold Weather Technology Development for Low Altitude Ultra-Long Endurance Applications, Phase II

Completed Technology Project (2011 - 2014)




Primary U.S. Work Locations

Maryland

Virginia

Project Transitions

 **June 2011:** Project Start

 **March 2014:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138747>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Vanilla Aircraft, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

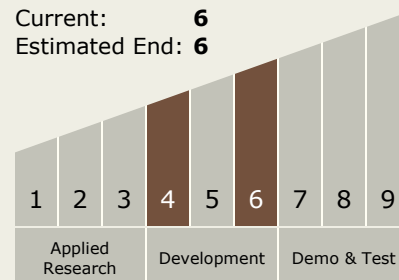
Carlos Torrez

Principal Investigator:

Daniel Hatfield

Technology Maturity (TRL)

Start: 4
Current: 6
Estimated End: 6



Cold Weather Technology Development for Low Altitude Ultra-Long Endurance Applications, Phase II

Completed Technology Project (2011 - 2014)



Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
 - └ TX13.4 Mission Success Technologies
 - └ TX13.4.1 Mission Planning

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System